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PATENT APPLICATION

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UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Kave Eshghi et al

Confirmation No.: 6378

Application No.: 09/981276

Examiner: Faruk Hamza

Filing Date: Oct 17, 2001

Group Art Unit: 2155

Title: Allowing Requests Of A Session To Be Serviced By Different Servers In A Multi-Server Data Service System

Mail Stop Appeal Brief-Patents  
Commissioner For Patents  
PO Box 1450  
Alexandria, VA 22313-1450TRANSMITTAL OF APPEAL BRIEFTransmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on October 10 2005.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) \$500.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d)) for the total number of months checked below:☐ 1st Month  
\$120☐ 2nd Month  
\$450☐ 3rd Month  
\$1020☐ 4th Month  
\$1690☐ The extension fee has already been filed in this application.☒ (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.Please charge to Deposit Account 08-2025 the sum of \$ 500. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.☐ I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:  
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants:	Kave Eshghi, et al.	Examiner:	Faruk Hamza
Serial No.:	09/981,276	Group Art Unit:	2155
Filed:	October 17, 2001	Docket No.:	10015123-1
Title:	Allowing Requests of a Session to be Serviced by Different Servers in a Multi-Server Data Service System		

**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is filed in response to the Final Office Action mailed July 14, 2005 and the Notice of Appeal filed on October 10, 2005.

**AUTHORIZATION TO DEBIT ACCOUNT**

It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's deposit account no. 08-2025.

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### **I. REAL PARTY IN INTEREST**

The real party-in-interest is the assignee, Hewlett-Packard Development Company, L.P., a Texas Limited Partnership having its principal place of business in Houston, Texas.

### **II. RELATED APPEALS AND INTERFERENCES**

There are no known related appeals or interferences known to appellant, the appellant's legal representative, or assignee that will directly affect or be directly affected by or have a bearing on the Appeal Board's decision in the pending appeal.

### **III. STATUS OF CLAIMS**

Claims 1 – 16 stand finally rejected. The rejection of claims 1 – 16 is appealed.

### **IV. STATUS OF AMENDMENTS**

No amendments were made after receipt of the Final Office Action. All amendments have been entered.

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### V. SUMMARY OF CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R.

§ 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element or that these are the sole sources in the specification supporting the claim features.

#### Claim 1

A data service system (#40: Fig. 3), comprising:

a plurality of web servers (#52: Fig. 3), each servicing any request received by the data service system (p. 8, lines 8-12);

a plurality of application servers (#54: Fig. 3), each processing any request directed from any one of the web servers (p. 8, lines 12-14);

a session state information managing system (#50: Fig. 3) called by each of the application servers to allow different application servers to process requests belonging to a single session without requiring the requests to carry their entire session state information, wherein processing of each of the requests requires the session state information of that request (p. 8, lines 14-18).

#### Claim 2

The data service system of claim 1, wherein the session state information managing system further comprises

a session state information manager (#56: Fig. 3) called by any one of the application servers when that application server processes a request of a session to (1) provide the session state information of the request to the application server and (2) generate a state reference for a new session state information for that request after the

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application server has processed the request and generated the new session state information for that request (p. 8, line 19 – p. 9, line 24);

a store (#57: Fig. 3) that stores all session state information received by the session state information manager (p. 9, lines 15-18).

#### Claim 4

The data service system of claim 3, wherein the session state information manager generates the state reference by

mapping the session state information to a sequence of bytes using a marshaling algorithm (p. 16, lines 14-18);

mapping the sequence of bytes to a digest using a cryptographic hash algorithm (p. 16, lines 24-25);

mapping the digest to the character string using an encoding algorithm, thus forming the state reference (p. 16, lines 18-23).

#### Claim 5

The data service system of claim 4, wherein the marshaling algorithm further comprises the property that can un-marshall the sequence of bytes into a replica of the session state information data structure without any loss of data (p. 16, lines 18-23).

#### Claim 6

The data service system of claim 4, wherein the digest mapped by the cryptographic hash algorithm is a fixed length, short sequence of bytes that is unique to the sequence of bytes (p. 16, lines 24-26).

#### Claim 7

The data service system of claim 4, wherein the encoding algorithm maps each byte in the digest to its hexadecimal representation, and creates the resulting character string (p. 17, lines 3-7).

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Claim 8

A session state information managing system (#50: Fig. 3) in a data service system (#40: Fig. 3) having a plurality of duplicate application servers, each for processing requests, comprising:

a session state information manager (#56: Fig. 3) called by any one of the application servers when that application server processes a request of a session to (1) provide the session state information of the request to the application server and (2) generate a state reference for a new session state information for that request after the application server has processed the request and generated the new session state information for that request (p. 8, line 19 – p. 9, line 24);

a store (#57: Fig. 3) that stores all session state information received by the session state information manager (p. 9, lines 15-18).

Claim 14

A method of allowing different application servers (#54: Fig. 3) in a data service system (#40: Fig. 3) to process requests belonging to a single session (p. 8, lines 8-18), comprising

(A) determining if a request starts a session (#62: FIG. 4; p. 13, lines 11-16);  
if the request initiates the session, then

(B1) processing the request in one of the application servers and sending session state information of the request to a session state information manager (#56: FIG. 3: #62-65: FIG. 4; p. 13, lines 16-22);

(B2) receiving a state reference unique to the session state information from the session state information manager and attaching the state reference to the response to the request (#66-67: FIG. 4; p. 13, line 18 – p. 14, line 4);

if the request does not start the session, then (#62: FIG. 4; p. 14, lines 5-7)

(C1) retrieving the session state information associated with the request from the session state information manager using a state reference contained in the request (#70: FIG. 4; p. 14, lines 7-17);

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(C2) processing the request with the retrieved session state information in one of the application servers and generating a new session state information (#74: FIG. 4; p. 14, line 24 – p. 15, line 18);

(C3) sending the new session state information of the request to the session state information manager to receive a new state reference unique to the new session state information and attaching the state reference to the response to the request (#65: FIG. 4; p. 15, lines 12-18).

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**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

I. Claims 1 – 3, 8, 9, 14, and 15 are rejected under 35 U.S.C. §102(e) as being anticipated by USPN 6,499,052 (Hoang).

II. Claims 4-7, 10-13, and 16 are rejected under 35 USC § 103(a) as being unpatentable over Hoang.



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## **VII. ARGUMENT**

The rejection of claims 1 – 16 is improper, and Applicants respectfully requests withdraw of this rejection.

The claims do not stand or fall together. Instead, Applicants present separate arguments for various independent and dependent claims. Each of these arguments is separately argued below and presented with separate headings and sub-heading as required by 37 C.F.R. § 41.37(c)(1)(vii).

### **Overview of Hoang**

In prior virtual shopping malls (i.e., local commerce sites), individual merchants were required to maintain two separate websites: one website for the virtual mall, and another direct website for consumers not using the virtual mall (2: 23-34). The invention in Hoang is directed to solving this problem. As shown in FIG. 1 of Hoang, a single integration server (RMIS 130) sends client requests to the merchant websites (152-156) and then sends merchant responses back to the client (110) (see Hoang at 5: 12-30). The RMIS 130 includes a session manager 210 that uses cookies to track clients (5:60 – 6:29).

### **I. Claim Rejections: 35 USC § 102**

Claims 1 – 3, 8, 9, 14, and 15 are rejected under 35 U.S.C. §102(e) as being anticipated by USPN 6,499,052 (Hoang). Applicants respectfully traverse.

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. See MPEP § 2131, also, *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Since Hoang neither teaches nor suggests each element in the rejected claims, these claims are allowable over Hoang.

### **Group I: Claim 1: Example 1**

Claim 1 recites numerous limitations that are not taught or suggested in Hoang. For example, claim 1 recites (emphasis added):

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a plurality of web servers, each servicing any request received by the data service system;

a plurality of application servers, each processing any request directed from any one of the web servers.

No where does Hoang teach or suggest a plurality of web servers and a plurality of application servers. The Office Action cites col. 5, lines 1-5; this section is reproduced for convenience:

One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. Client server network 100 has a user client 110, a network A 120, a remote merchant integration server (RMIS) 130, a network B 140, and remote merchant sites 152, 154, 156.

This section teaches a single server (RMIS 130). Plural web servers and application servers are not taught or suggested.

#### **Examiner Unreasonably Interpreting Claims**

Applicants acknowledge that claims must be given their broadest interpretation during patent examination. However, this interpretation must be a "reasonable interpretation consistent with the specification" (see MPEP 2111: emphasis added). Disregarding or ignoring words expressly recited in a claim is not a reasonable interpretation of that claim. Specifically, the Examiner is ignoring the recited terms "web" servers and "application" servers in claim 1.

Web servers and application servers are two different types of servers. Each of these servers has a different meaning to one of ordinary skill in the art. Applicants' specification expressly discusses the function of web servers (see p. 10, line 20 – p. 11, line 5) and the function of application servers (see p. 11, lines 6-16). Further, Webopedia is an online dictionary for computer and internet technology definitions. Per Webopedia (see [www.webopedia.com](http://www.webopedia.com)), a web server is defined as: "A computer that delivers (serves

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up) Web pages." By contrast, an application server is defined as: "A program that handles all application operations between users and an organization's backend business applications or databases. Application servers are typically used for complex transaction-based applications."

Applicants argue that nowhere does Hoang teach or suggest both web servers and application servers as these terms are known to one of ordinary skill in the art. The Examiner repeatedly cites col. 5, lines 1-5 of Hoang. This section teaches a single integration server (i.e., RMIS 130) and plural web servers (i.e., merchant sites 152, 154, 156). Hoang does not teach both plural web servers and plural application servers.

For at least these reasons, claim 1 and all its dependent claims are allowable over Hoang.

#### **Group I: Claim 1: Example 2**

Even assuming arguendo that Hoang teaches plural web servers and plural application servers (which it does not), Hoang still does not teach or suggest the elements as recited in claim 1. Specifically, claim 1 recites that web servers "each servicing any request received by the data service system." Hoang does not teach or suggest these elements.

Hoang teaches that the remote merchant site is a "website of a merchant" (see col. 2, lines 11-12; and col. 2, line 67 – col. 3, line 1). Thus, FIG. 1 of Hoang shows plural merchant websites (152, 154, 156) connected via network B (140) to a single merchant server 130. The merchant server routes client requests to the specified merchant website (9: 44-46; and 10: 17-19). In other words, the merchant server receives client requests and sends them to the correct merchant website. Each of the merchant websites, however, does not service "any request received by the data service system." Each merchant website only services requests made by the client for that particular merchant website.

Again, claim 1 recites that web servers each service "any request received by the data service system." By contrast, Hoang expressly teaches that the merchant server directs requests only to the specified merchant website. Each merchant website in Hoang does not service any request received by RMIS 130 of Hoang.

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For at least these reasons, claim 1 and all its dependent claims are allowable over Hoang.

**Group I: Claim 1: Example 3**

Even assuming arguendo that Hoang teaches plural web servers and an application server (which it does not), Hoang still does not teach or suggest the elements as recited in claim 1. Specifically, claim 1 recites plural applications servers. Hoang does not teach or suggest this element.

Hoang expressly teaches that a **single** merchant server (RMIS 130) processes requests between the clients and the merchant web sites. FIGS. 1 and 2 show a single server (RMIS 130). Further, FIG. 5 shows a single server (RMIS 130). Nowhere does Hoang teach or suggest a network of plural application servers.

If the Examiner argues that the websites of Hoang are application servers, then Applicants respond that this argument is not a reasonable interpretation of the claims and art. As noted above, websites, web servers, and application servers have different meanings to one of ordinary skill in the art. Nowhere does Hoang teach or suggest that the merchant websites are application servers.

For at least these reasons, claim 1 and all its dependent claims are allowable over Hoang.

**Group I: Claim 1: Example 4**

Even assuming arguendo that Hoang teaches plural application servers (which it does not), Hoang would not teach or suggest all the elements of claim 1. Specifically, claim 1 recites plural application servers and states: "each processing any request directed from any one of the web servers."

Hoang only shows one RMIS 130. Nowhere does Hoang teach or suggest that plural RMIS 130 would be connected such that each of them would process any request directed from any one of the merchant servers.

For at least these reasons, claim 1 and all its dependent claims are allowable over Hoang.

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**Group I: Claim 1: Example 5**

As yet another example, claim 1 recites numerous limitations regarding application servers and session state information. By way of example, some of these limitations are presented below (emphasis added):

a session state information managing system **called by each of the application servers to allow different application servers to process requests belonging to a single session** without requiring the requests to carry their entire session state information, wherein processing of each of the requests requires the session state information of that request.

Hoang does not teach or suggest these elements. The Office Action cites col. 6, lines 5-29 (see FOA at p. 3). This section teaches a session manager 210 that performs a different function depending on whether the client is a first time user. If the client is a first time user, the session manager sets a cookie for a user client, stores the cookie in a database, and sends the cookie to the client. If the client is not a first time user, then the session manager retrieves the client's cookie from the database.

For numerous reasons, the cited section of Hoang does not teach or suggest the elements of claim 1. First, nowhere does this section of Hoang teach or suggest that the session manager 210 is "called by each of the application servers to process requests belonging to a single session." Hoang does not even teach application servers. Hoang teaches that the session manager 210 processes requests for merchant websites (i.e., web servers). Even if the merchant websites are application servers (which they are not), Hoang still does not teach or suggest the claim elements. The claim recites that **different application servers process requests belonging to a single session**. By contrast in Hoang, the same merchant website processes requests to that website. Hoang is directed to virtual shopping malls (i.e., local commerce sites). When a client makes a request (example, a shopping cart purchase) for one particular merchant site, the request is sent to that merchant site, not another merchant site.

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For at least these reasons, claim 1 and all its dependent claims are allowable over Hoang.

#### **Group II: Claim 2**

For at least the reasons given in connection with claim 1, claim 2 is allowable over Hoang. Additionally, claim 2 recites two different elements: a state reference and session state information. Hoang does not teach both of these elements. Hoang teaches that the session manager 210 stores the merchant cookie (i.e., state reference) in a database. Nowhere does Hoang teach that the session manager 210 also provides "session state information" to application servers. In other words, Hoang only teaches that the session manager 210 generates, stores, and retrieves a cookie (i.e., a state reference). Hoang does not teach the recitations associated with the claimed "session state information."

#### **Group III: Claim 8: Example 1**

Claim 8 recites various recitations regarding plural application servers. Nowhere does Hoang teach or suggest application servers.

First, Hoang expressly teaches that a single merchant server (RMIS 130) processes requests between the clients and the merchant web sites. FIGS. 1 and 2 show a single server (RMIS 130). Further, FIG. 5 shows a single server (RMIS 130). Nowhere does Hoang teach or suggest that the RMIS 130 is an application server.

Second, Hoang does teach plural merchant websites. FIGS. 1 and 5 in Hoang show plural merchant websites (152-156). A merchant website is not an application server. Merchant websites are web servers.

#### **Examiner Unreasonably Interpreting Claims**

Applicants acknowledge that claims must be given their broadest interpretation during patent examination. However, this interpretation must be a "reasonable interpretation consistent with the specification" (see MPEP 2111; emphasis added). Disregarding or ignoring words expressly recited in a claim is not a reasonable interpretation of that claim.

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Web servers and application servers are two different types of servers. Each of these servers has a different meaning to one of ordinary skill in the art. Applicants' specification expressly discusses the function of web servers (see p. 10, line 20 – p.11, line 5) and the function of application servers (see p. 11, lines 6-16). Further, Webopedia is an online dictionary for computer and internet technology definitions. Per Webopedia (see [www.webopedia.com](http://www.webopedia.com)), a web server is defined as: "A computer that delivers (serves up) Web pages." By contrast, an application server is defined as: "A program that handles all application operations between users and an organization's backend business applications or databases. Application servers are typically used for complex transaction-based applications."

Applicants argue that nowhere does Hoang teach or suggest both web servers and application servers as these terms are known to one of ordinary skill in the art. Hoang teaches plural web servers as merchant websites.

For at least these reasons, claim 8 and all its dependent claims are allowable over Hoang.

### **Group III: Claim 8: Example 2**

Claim 8 recites "plurality of **duplicate** application servers" (emphasis added). Even assuming arguendo that Hoang teaches application servers (which it does not), Hoang does not teach duplicate application servers.

Hoang teaches a single server RMIS 130, which is not even an application server. This single merchant server (RMIS 130) processes requests between the clients and the merchant web sites. FIGS. 1 and 2 show a single server (RMIS 130). Further, FIG. 5 shows a single server (RMIS 130). Nowhere does Hoang teach or suggest a network of plural duplicate application servers.

For at least these reasons, claim 8 and all its dependent claims are allowable over Hoang.

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**Group III: Claim 8: Example 3**

Claim 8 recites numerous limitations regarding application servers and session state information. By way of example, some of these limitations are presented below (emphasis added):

a session state information manager called by any one of the application servers when that application server processes a request of a session to (1) provide the session state information of the request to the application server and (2) generate a state reference for a new session state information for that request after the application server has processed the request and generated the new session state information for that request.

Claim 8 recites two different elements: a state reference and session state information. Hoang does not teach both of these elements. Hoang teaches that the session manager 210 stores the merchant cookie (i.e., state reference) in a database. Nowhere does Hoang teach that the session manager 210 also provides "session state information" to application servers. In other words, Hoang only teaches that the session manager 210 generates, stores, and retrieves a cookie (i.e., a state reference). Hoang does not teach the recitations associated with the claimed "session state information."

For at least these reasons, claim 8 and all its dependent claims are allowable over Hoang.

**Group IV: Claim 14: Example 1**

Claim 14 recites various recitations regarding plural application servers. Nowhere does Hoang teach or suggest application servers.

First, Hoang expressly teaches that a single merchant server (RMIS 130) processes requests between the clients and the merchant web sites. FIGS. 1 and 2 show a single server (RMIS 130). Further, FIG. 5 shows a single server (RMIS 130). Nowhere does Hoang teach or suggest that the RMIS 130 is an application server.



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Second, Hoang does teach plural merchant websites. FIGS. 1 and 5 in Hoang show plural merchant websites (152-156). A merchant website is not an application server. Merchant websites are web servers.

#### **Examiner Unreasonably Interpreting Claims**

Applicants acknowledge that claims must be given their broadest interpretation during patent examination. However, this interpretation must be a "reasonable interpretation consistent with the specification" (see MPEP 2111; emphasis added). Disregarding or ignoring words expressly recited in a claim is not a reasonable interpretation of that claim.

Web servers and application servers are two different types of servers. Each of these servers has a different meaning to one of ordinary skill in the art. Applicants' specification expressly discusses the function of web servers (see p. 10, line 20 – p. 11, line 5) and the function of application servers (see p. 11, lines 6-16). Further, Webopedia is an online dictionary for computer and internet technology definitions. Per Webopedia (see [www.webopedia.com](http://www.webopedia.com)), a web server is defined as: "A computer that delivers (serves up) Web pages." By contrast, an application server is defined as: "A program that handles all application operations between users and an organization's backend business applications or databases. Application servers are typically used for complex transaction-based applications."

Applicants argue that nowhere does Hoang teach or suggest both web servers and application servers as these terms are known to one of ordinary skill in the art. Hoang teaches plural web servers as merchant websites.

For at least these reasons, claim 14 and all its dependent claims are allowable over Hoang.

#### **Group IV: Claim 14: Example 2**

In order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, "[t]he elements must be arranged as required by the claim," see M.P.E.P. § 2131, citing *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). Hoang does not teach the elements as arranged in claim 14.

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Claim 14 recites a first step A (determining if a request starts a new session) and a second step B (if the request does start a new session then processing the request in an application server and sending session state information to a session manager). By contrast, Hoang expressly teaches how the session manager handles requests: First, the session manager 210 receives the client request (5: 60-66). Next, if the client is a first time user, then the session manager 210 sets and stores a client cookie for the first time user (6: 5-12). This sequence contrasts with the arrangement of elements in claim 14. Specifically, step B in claim 14 states if the request does start a new session then processing the request in an application server and sending session state information to a session manager. In Hoang, the system manager 210 sends the cookie to the client. The cookie is not "session state information." Further, claim 14 does not recite sending the session state information to the client, but recites sending session state information to a session manager. In Hoang, how can the system manager 210 process the client request then send session state information to itself? Further, claim 14 requires that the request is processed in an application server then sending session state information to a session manager. Hoang does not teach both of these elements. In Hoang, the system manager 210 processes the client requests.

For at least these reasons, claim 14 and all its dependent claims are allowable over Hoang.

#### **Group IV: Claim 14: Example 3**

In order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, "[t]he elements must be arranged as required by the claim," see M.P.E.P. § 2131, citing *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). Hoang does not teach the elements as arranged in claim 14.

Claim 14 recites that if the request does not start the session, then three steps (C1, C2, C3) occur. Hoang does not teach these three steps as arranged in the claim. Hoang expressly teaches how the session manager handles requests: First, the session manager 210 receives the client request (5: 60-66). Next, if the client is not a first time user, then the session manager 210 retrieves the client cookie from the database (6: 18-29). This sequence contrasts with the arrangement of elements in claim 14. Specifically, step C1 in

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claim 14 states if the request does not start a new session then retrieving session state information from the session state information manager using a state reference (i.e., a cookie). Hoang does not teach the element of session state information. Hoang only teaches retrieving a cookie (i.e., a state reference). Further, step C2 requires that the request is processed in one of the application servers. The merchant websites in Hoang are not application servers. Further, step C3 states that new session state information is sent to the session state information manager. In Hoang, the merchant website sends a cookie, but a cookie is a state reference, not session state information.

For at least these reasons, claim 14 and all its dependent claims are allowable over Hoang.

## **II. Claim Rejections: 35 USC § 103**

Claims 4-7, 10-13, and 16 are rejected under 35 USC § 103(a) as being unpatentable over Hoang. Applicants respectfully traverse.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. See M.P.E.P. § 2143.

Applicants assert that the rejection does not satisfy any of the criteria of MPEP § 2143. By way of example, as noted in Section I, Hoang does not teach or suggest all of the claimed elements in independent claims 1, 8, and 14. Thus, for at least these reasons, claim 4-7, 10-13, and 16 are allowable over Hoang. Applicants provide additional reasons for various groups below.

### **Group I: Claims 4, 10, and 16**

First, these claims recite mapping the session state information to a sequence of bytes using a marshaling algorithm. Hoang does not teach or suggest using a marshaling algorithm for any purpose. Hoang does not even discuss marshaling algorithms. Further, the Examiner has not even provided a location in Hoang for teaching

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or suggesting this recitation (see FOA at p. 6: no reference in Hoang cited for this claim element). For at least these reasons, claims 4, 10, and 16 are allowable over Hoang.

Second, these claims recite mapping the sequence of bytes to a digest using a cryptographic hash algorithm. Hoang does not even discuss such elements. The Examiner cites the Background of Hoang that discusses cookies that store a consumer's password and customer ID. This section of Hoang has nothing to do with mapping the sequence of bytes to a digest using a cryptographic hash algorithm. For at least these reasons, claims 4, 10, and 16 are allowable over Hoang.

Third, these claims recite mapping a digest to a character string using an encoding algorithm. Hoang does not even discuss mapping "digests." The Examiner cites col. 5, lines 41-58. Applicants respectfully ask the Board of Appeals to read this section in Hoang. It has nothing to do with mapping a digest to a character string using an encoding algorithm. For at least these reasons, claims 4, 10, and 16 are allowable over Hoang.

#### **Group II: Claims 5 and 11**

These claims recite that the marshaling algorithm can "un-marshall" a sequence of bytes into a replica of the session state information data structure without any loss of data." Hoang does not teach or suggest using a marshaling algorithm for any purpose. Hoang does not teach or suggest un-marshaling for any purpose. Hoang does not even discuss marshaling algorithms. The Examiner cites sections of Hoang that are unrelated to the elements of these claims. For at least these reasons, claims 5 and 11 are allowable over Hoang.

#### **Group III: Claims 6 and 12**

These claims recite that the digest is mapped by a cryptographic hash algorithm. First, Hoang does not even teach or suggest digests. Second, Hoang does not even teach or suggest cryptographic hash algorithms. The Examiner cites sections of Hoang that teach generating and transforming cookies. This section has nothing to do with a digest that is mapped by a cryptographic hash algorithm. For at least these reasons, claims 6 and 12 are allowable over Hoang.

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**Group IV: Claims 7 and 13**

These claims recite that the **encoding algorithm** maps each byte in the **digest** to its **hexadecimal representation** and creates a character string. is mapped by a cryptographic hash algorithm, First, Hoang does not even teach or suggest encoding algorithms. Second, Hoang does not even teach or suggest digests. Third, Hoang does not even teach or suggest mapping bytes in the digest to a hexadecimal representation. The Examiner cites sections of Hoang that have nothing to do with the claimed elements. For at least these reasons, claims 7 and 13 are allowable over Hoang.

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### CONCLUSION

In view of the above, Applicants respectfully request the Board of Appeals to reverse the Examiner's rejection of all pending claims.

Any inquiry regarding this Amendment and Response should be directed to Philip S. Lyren at Telephone No. (281) 514-8236, Facsimile No. (281) 514-8332. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,



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#### CERTIFICATE UNDER 37 C.F.R. 1.8

The undersigned hereby certifies that this paper or papers, as described herein, is being transmitted to the United States Patent and Trademark Office facsimile number 571-273-8300 on this 9th day of December, 2005.

By: 

Name: Carrie McKerley

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### **VIII. Claims Appendix**

1. A data service system, comprising:
  - a plurality of web servers, each servicing any request received by the data service system;
  - a plurality of application servers, each processing any request directed from any one of the web servers;
  - a session state information managing system called by each of the application servers to allow different application servers to process requests belonging to a single session without requiring the requests to carry their entire session state information, wherein processing of each of the requests requires the session state information of that request.
2. The data service system of claim 1, wherein the session state information managing system further comprises
  - a session state information manager called by any one of the application servers when that application server processes a request of a session to (1) provide the session state information of the request to the application server and (2) generate a state reference for a new session state information for that request after the application server has processed the request and generated the new session state information for that request;
  - a store that stores all session state information received by the session state information manager.
3. The data service system of claim 2, wherein the state reference generated is unique to the corresponding session state information and is a short and fixed length character string.
4. The data service system of claim 3, wherein the session state information manager generates the state reference by
  - mapping the session state information to a sequence of bytes using a marshaling algorithm;

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mapping the sequence of bytes to a digest using a cryptographic hash algorithm;  
mapping the digest to the character string using an encoding algorithm, thus  
forming the state reference.

5. The data service system of claim 4, wherein the marshaling algorithm further comprises the property that can un-marshall the sequence of bytes into a replica of the session state information data structure without any loss of data.
6. The data service system of claim 4, wherein the digest mapped by the cryptographic hash algorithm is a fixed length, short sequence of bytes that is unique to the sequence of bytes.
7. The data service system of claim 4, wherein the encoding algorithm maps each byte in the digest to its hexadecimal representation, and creates the resulting character string.
8. A session state information managing system in a data service system having a plurality of duplicate application servers, each for processing requests, comprising:
  - a session state information manager called by any one of the application servers when that application server processes a request of a session to (1) provide the session state information of the request to the application server and (2) generate a state reference for a new session state information for that request after the application server has processed the request and generated the new session state information for that request;
  - a store that stores all session state information received by the session state information manager.
9. The session state information managing system of claim 8, wherein the state reference generated is unique to the corresponding session state information and is a short and fixed length character string.
10. The session state information managing system of claim 9, wherein the session state information manager generates the state reference by



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mapping the session state information to a sequence of bytes using a marshaling algorithm;

mapping the sequence of bytes to a digest using a cryptographic hash algorithm;

mapping the digest to the character string using an encoding algorithm, thus forming the state reference.

11. The session state information managing system of claim 10, wherein the marshaling algorithm further comprises the property that can un-marshall the sequence of bytes into a replica of the session state information data structure without any loss of data.

12. The session state information managing system of claim 10, wherein the digest mapped by the cryptographic hash algorithm is a fixed length, short sequence of bytes that is unique to the sequence of bytes.

13. The session state information managing system of claim 10, wherein the encoding algorithm maps each byte in the digest to its hexadecimal representation, and creates the resulting character string.

14. A method of allowing different application servers in a data service system to process requests belonging to a single session, comprising

(A) determining if a request starts a session;

if the request initiates the session, then

(B1) processing the request in one of the application servers and sending session state information of the request to a session state information manager;

(B2) receiving a state reference unique to the session state information from the session state information manager and attaching the state reference to the response to the request;

if the request does not start the session, then

(C1) retrieving the session state information associated with the request from the session state information manager using a state reference contained in the request;

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(C2) processing the request with the retrieved session state information in one of the application servers and generating a new session state information;

(C3) sending the new session state information of the request to the session state information manager to receive a new state reference unique to the new session state information and attaching the state reference to the response to the request.

15. The method of claim 14, wherein the step (C1) further comprises the steps of  
verifying the session state information retrieved;  
if the session state information is not verifiable, then performing the step (B1);  
if the session state information is verified, then performing the step (C2).

16. The method of claim 14, wherein the session state information manager generates the state reference by

mapping the session state information to a sequence of bytes using a marshaling algorithm;

mapping the sequence of bytes to a digest using a cryptographic hash algorithm;

mapping the digest to the character string using an encoding algorithm, thus forming the state reference.

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**IX. EVIDENCE APPENDIX**

None.

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**X. RELATED PROCEEDINGS APPENDIX**

None.

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